

ON A MATCHING EFFECT IN HEADED RELATIVE CLAUSES

Martina Gračanin-Yüksek
Middle East Technical University

1. INTRODUCTION AND BASIC DATA

In Croatian, like in many other languages, relative clauses may be introduced either by a complementizer or a *wh*-operator. In (1a) we see a headed relative clause (HRC) introduced by a *wh*-operator *koji/-a/-e* ‘which’, and in (1b), a HRC introduced by a complementizer *što* ‘that’.

1. a. čovjek **koji** ___ je došao *Subject relative clause*
man.NOM which.NOM Aux.3SG come
‘(the) man who came.’
- b. čovjek **što** ___ je došao
man.NOM that Aux.3SG come
‘(the) man that came.’

In both (1a) and (1b), the position of the relativized subject inside the relative clause must be a gap.

In object relative clauses, the two strategies differ in that the *što*-relative clause (*što*-RC) requires the position of the relativization to be occupied by a resumptive pronoun (RP). By contrast, the same position in the *koji*-relative clause must be a gap. This is shown in (2).

2. a. čovjek **kojeg** sam (*ga) vidio *Object relative clause*
man.NOM which.ACC Aux.1SG him.ACC seen
‘(the) man whom I saw.’
- b. čovjek **što** sam *(ga) vidio
man.NOM that Aux.1SG him.ACC seen
‘(the) man that I saw.’

HRCs introduced by a complementizer in many languages involve *optional* resumption (Hebrew, Irish) or *obligatory* resumption (Palestinian Arabic).

3. a. am girseach ar ghoid na síogaí *Irish*
the girl aL stole the fairies
‘the girl that the fairies stole away’ (McCloskey, 2002: 9a)

b. am girseach ar ghoid na síogaí^[I]
 the girl aN stole the faries her
 ‘the girl that the fairies stole away’

(McCloskey, 2002: 9b)

4. ha- ?iš še- ra?iti ^[(?oto)]
 the man that saw.1sg him
 ‘the man that I saw’

Hebrew

(Shlonsky, 1992: 1)

5. l- bint ?illi šufti- ^[(ha)]
 the girl that saw.2sg her
 ‘the girl that you saw’

Palestinian Arabic

(Shlonsky, 1992: 7)

HRCs which feature an RP are commonly analyzed as not involving movement (Borer, 1984; Chomsky, 1977; McCloskey, 2002; Merchant, 2004; Safir, 1986; Shlonsky, 1992 among others). Instead, they involve external Merge of a null-operator in the [Spec CP] position, from where it binds the RP, which is externally merged within the relative clause.

One piece of evidence that argues for such an analysis is that RPs obligatorily appear in positions from which movement is banned (islands), even in languages like English.¹

6. ha- ?iš še- ra?iti ?et _[NP island] ?išt- *(o)
 the man that saw.1sg ACC wife his
 ‘the man whose wife I saw’

Hebrew

(Shlonsky, 1992: 5)

7. the man that John wondered _[wh-island] whether Mary saw **him**]

(Boeckx, 2003: 6)

ASSUMPTIONS

- i. A *što*-RC with a **GAP** in the site of relativization (typically, but not exclusively subject *što*-RCs) is derived by movement from the relativization site to [Spec CP] (for concreteness, I assume that what moves is a null operator).

a. $[_{CP} Op [_{C'} Comp [_{TP} \dots Op]]]$
 \uparrow

- ii. A *što*-RC with an **RP** in the site of relativization (typically, but not exclusively object *što*-RCs) is derived by a non-movement strategy: external Merge of *Op* in [Spec CP] and of RP in the relativization site. The two elements are related by binding.

a. $[_{CP} Op [_{C'} Comp [_{TP} \dots RP]]]$

¹ Although, see (Chao and Sells, 1983) and (Sells, 1984) for a difference between true resumptive pronouns (which these authors claim English does not have) and intrusive pronouns (which are used only as a last resort repair of an island violation).

CLAIMS

- i. Object *što*-RCs in Croatian may be derived either by a movement or a non-movement strategy.
- ii. Movement strategy is subject to **A (CASE) MATCHING REQUIREMENT**: the RP in an object *što*-RC may be omitted only if the head of the RC ($HEAD_{RC}$) bears the case (assigned to it by the matrix predicate) that is *morphologically* identical to the case it would receive from the embedded predicate.

ROADMAP OF THE TALK

PART I: CONDITIONS ON OPTIONALITY OF RPs IN *što*-RCs.

- i. **Observation**: in some object *što*-RCs, RPs are optional.
- ii. **The matching effect**: RPs are optional only in object *što*-RCs in which the case of the $HEAD_{RC}$ matches the case of the RP (case identity, case syncretism).
- iii. **PROPOSAL**: Case matching allows for a movement strategy in the formation of object *što*-RCs.

PART II: EVIDENCE FOR THE PROPOSAL

- i. **Observation 1**: For some speakers, RPs in object *što*-RCs are insensitive to islands.
- ii. **Observation 2**: Those speakers allow for the omission of RPs under matching.
- iii. **Island effects**: However, even in matching *što*-RCs, RPs are obligatory if the relativization proceeds out of an island.
- iv. **Parallelism with FRs**:
 - a. FRs are formed by movement of the *wh*-phrase that introduces a FR (WH_{FR}) from within the FR.
 - b. FRs are subject to a matching requirement – they are well formed only when WH_{FR} can at the same time satisfy case (and category) requirements of both the matrix and the embedded predicate (case identity, case syncretism).
 - c. Relativization of genitive phrases: if the relativized object (in *što*-RCs and in FRs) is a genitive phrase, both *što*-RCs and FRs seem to be derived through a non-movement strategy.
- v. **CONCLUSION**: Presence *versus* absence of an RP in Croatian object *što*-RCs reflects the difference in their derivation: base-generation *versus* movement.

2. THE MATCHING EFFECT IN CROATIAN OBJECT *što*-RCs

Recall from (2b) above, that Croatian object *što*-RCs require an RP in the position of relativization. In some *što*-RCs, however, the RP is optional.² Witness the contrast in (8) and (9) below.



In (8):

- HEAD_{RC} is the subject of the matrix clause

The matrix T⁰ assigns NOMINATIVE to its subject → HEAD_{RC} *čovjek* ‘man’: NOM

- RP is the object of the RC

The embedded predicate assigns ACCUSATIVE to its object → RP *ga* ‘him’: ACC

NO MATCHING → RP obligatory

8. Čovjek [što sam *(ga) vidio_{acc} ___] opljačkao_{nom} je banku.
man.**NOM** [that Aux.1SG him.**ACC** seen_{acc} ___] robbed_{nom} Aux.3SG bank.ACC
‘The man that I saw has robbed a bank.’

ACC: *čovjeka*



In (9):

- HEAD_{RC} is the object of the matrix clause

The matrix predicate assigns ACCUSATIVE to its object → HEAD_{RC} *čovjeka* ‘man’: ACC

- The RP is the object of the RC

The embedded predicate assigns ACCUSATIVE to its object → RP *ga* ‘him’: ACC

MATCHING → RP optional

9. Upoznao_{acc} sam čovjeka [što (ga) je Jan doveo_{acc} ___ na zabavu.]
met_{acc} Aux.1SG man.**ACC** [that him.**ACC** Aux.3SG Jan.NOM brought_{acc} ___ on party]
‘I met the man that Jan brought to the party.’

Examples in (8) and (9) show that the RP can be absent if it *formally* matches the HEAD_{RC} in case. I call this requirement **THE MATCHING REQUIREMENT**. (See also Mitrović, 2008 for the same, independently reached conclusion.)

² The RPs in *što*-RCs are pronominal clitics, and Croatian is a language where clitics obligatorily occupy the second position in their clause, in our case this is the *što*-RC. I indicate the *original* site of relativization with underscore (___), but this is not to say that the clause contains a gap.

However, the data in (10) below show that *formal identity* in case is actually not required for an RP to become optional. The matching requirement is satisfied as long as the two cases are syncretic (morphologically identical).



In (10):

- HEAD_{RC} is the subject of the matrix clause
The matrix T⁰ assigns NOMINATIVE to its subject → HEAD_{RC} *dijete* ‘child’: NOM
- The RP is the object of the RC
The embedded predicate assigns ACCUSATIVE to its object → RP *ga* ‘him’: ACC

For neuter nouns, such as *dijete* ‘child’, the nominative and accusative share the same form.

MATCHING → RP optional

10. *Dijete* [što sam (ga) vidio_{acc} ___] ima_{nom} dugu kosu.
child.NEUT.NOM/(ACC) [that Aux.1SG him.ACC seen_{acc} ___] has_{nom} long.ACC hair.ACC
‘The child that I saw has long hair.’

The same observation is nicely shown by the following contrast: For feminine nouns that end in *-a* (most of the feminine nouns in the language), the case syncretism between nominative and accusative does not hold. However, for feminine nouns that end in a consonant, the syncretism holds. As a result, the RP in (11a) is obligatory, while in (11b) it is optional.



11. a. *Želja* [što sam *(je) osjetio_{acc} ___] bila_{nom} je jaka.
desire.FEM.NOM [that Aux.1SG her.ACC felt_{acc} ___] been_{nom} Aux.3SG strong.NOM
‘The desire that I felt was strong.’

ACC: *želju*

- b. *Ljubav* [što sam (je) osjetio_{acc} ___] bila_{nom} je jaka.
love.FEM.NOM/(ACC) [that Aux.1SG her.ACC felt_{acc} ___] been_{nom} Aux.3SG strong
‘The love that I felt was strong.’

The optionality of RPs in (Serbo-)Croatian object *što*-RCs has been tied to the ANIMACY or GENDER features of the head noun. It has been claimed that with animate heads, the RP is obligatory, while it is optional with inanimate heads (Browne, 1986; Goodluck and Stojanović, 1996; Kordić, 1995).

Similarly, Bošković (to appear) notes that ‘while the resumptive is optional with masculine and neuter objects, it is obligatory with [...] feminine object[s].’ (pg. 9)

The data above suggest that neither animacy (10) nor gender (11) of the head noun plays a role in whether the RP in a *što*-RC is obligatory or optional.

PROPOSAL:

Assuming that HRCs that contain an RP are always created by a non-movement strategy, and that those HRCs that do not contain an RP are created by movement, the optionality observed in the presence of RPs in Croatian object *što*-RCs points to two possible strategies in which these can be formed:

- i. A non-movement strategy (RP present),
- ii. A movement strategy (RP absent), subject to the matching requirement.

3. EVIDENCE FOR THE PROPOSAL

3.1. Island effects

Native speakers of Croatian are divided into two groups with respect to island sensitivity of *što*-RCs: for some speakers, they are sensitive to islands, while for some, they do not show island sensitivity. Thus, for some speakers, (12) is well-formed.



12. Ovo je čovjek [što Sanja plače [jer ga voli_{acc} ____ .]] *Adjunct island*
this is man.NOM [that Sanja.NOM cries [because him.ACC loves_{acc} ____]]
??/*‘This is the man that Sanja cries because she loves him.’

Importantly, if relativization in a *što*-RC proceeds out of an island, an RP is obligatory, even when the RC satisfies the matching requirement, as shown in (13).



13. Vidio_{acc} sam čovjeka [što Sanja plače [jer *(ga) mrzi_{acc} ____ .]]
seen_{acc} Aux.1SG man.ACC [that Sanja.NOM cries [because him.ACC hates_{acc} ____ .]]
??/*‘I saw the man that Sanja cries because she hates him.’

This can be taken as evidence that the difference in *što*-RCs with and without RPs reflects a difference in the derivation strategy employed in the formation of the RC.

It seems that movement in an object *što*-RC is allowed under matching, but only if it is independently allowed. If it is not, then the RC must be formed through a non-movement strategy.

3.2. Parallelism with FRs

In this section, we will see another piece of evidence which supports the hypothesis that movement is only involved in *što*-RCs that do not contain an RP.³ The data concern the relativization of a genitive phrase in a *što*-RC. However, to see this, we first need to learn a bit about Croatian FRs.

3.2.1. Croatian FRs: Matching effect

In Croatian, like in many other languages, FRs are subject to a matching requirement: a FR is well-formed only if the WH_{FR} can at the same time satisfy category and case requirements of both the matrix verb and the embedded verb (at least at the surface).

In (14), both the matrix and the embedded predicates require accusative.



14. Jan jede_{acc} [štogod mu poslužiš_{acc}.]
Jan eats_{acc} [whatever.ACC him.DAT serve_{acc}]
'Jan ate whatever you serve him.'

However, (15) is also grammatical, because the form of the WH_{FR} *što*god 'whatever' is ambiguous between accusative and nominative.



15. Jan jede_{acc} [štogod je_{nom} na stolu.]
Jan eats_{acc} [whatever.ACC/NOM is_{nom} on table]
'Jan eats whatever is on the table.'

If the matching requirement is not met, the FR is ill-formed. In (16), the WH_{FR} *tkogod* 'whoever' has a separate morphological realization for nominative (*tkogod*) and a separate one for accusative (*kogagod*).

³ Contra Boeckx (2003).



16. *Jan je upoznao_{acc} [kogagod /tkogod je u sobi.]
Jan Aux.3sg met_{acc} [whoever.ACC/NOM is_{nom} in room]
'Jan has met whoever is in the room.'

Given the data in (14) through (16), a parallel emerges between FRs and object *što*-RCs: In object *što*-RCs, an RP can be omitted in situations in which a FR is well-formed, i.e. when the matching effect is satisfied.

3.2.2. Croatian FRs: WH_{FR} moves

Another important consideration about FRs in Croatian is that they are derived by the movement of the WH_{FR} from within the FR to the [Spec CP] (Gračanin-Yuksek, 2008). This is shown, for example, by reconstruction effects observed in FRs.

Croatian has a subject-oriented possessive anaphor *svoj*/-a/-e, 'self's', which must be bound by the local subject under c-command. In the FR in (17), the anaphor *svoj* contained in the WH_{FR} must be bound by the subject of the FR, *Ivan*, and cannot be bound by the subject of the matrix clause, *Jan*.



17. Jan_j će pohvaliti_{acc} [koje god svoje dijete Ivan_i dovede_{acc} ____].
Jan_j will praise_{acc} [which ever self^s_{i/*j} child Ivan_i brings_{acc} ____]
'Jan_j will praise whichever of his_{i/*j} children Ivan_i brings.]

This indicates that the WH_{FR} must reconstruct into the position where it is c-commanded by the subject of the FR, *Ivan*.

This in turn argues that WH_{FR} originates in the object position of the FR (indicated by underscore), from where it moves to the [Spec CP] of the FR.⁴

3.2.3. Croatian FRs: Genitive WH_{FR} does not move

There is, however, one context in which the reconstruction of the WH_{FR} is not possible: when it bears genitive case. A FR with a genitive WH_{FR} is well-formed (if it satisfies the

⁴ For additional arguments for the movement-analysis of FRs in Croatian, as well as for the height of the final landing site of the WH_{FR}, see Gračanin-Yuksek (2008).

matching requirement), as shown by (18), but the reconstruction of such a WH_{FR} is blocked (19).⁵

☞ □

18. Vid se sjeća_{gen} [kogagod se Jan bojao_{gen} na fakultetu.]
Vid REFL remembers_{gen} [whoever.GEN REFL Jan feared_{gen} on college]
'Vid remembers whoever Jan feared in college.'

☞ □

19. *Vid_i se sjeća_{gen} [kojeg _____ god svog_{i/j} _____ profesora se Jan_j bojao_{gen} na fakultetu.]
Vid REFL remembers_{gen} [which.GEN ever self's.GEN_{i/j} professor.GEN REFL Jan feared on college]
'Vid remembers whichever of his_i professors Jan_j feared in college.'

This is taken as evidence that, exceptionally, a genitive WH_{FR} does not undergo movement, but is instead externally merged in the position in which it surfaces. (This position, however, cannot be within the matrix clause, but within the FR, most plausibly the [Spec CP].) What condition it is that bans movement of genitive phrases in FRs (or in *što*-RCs) is not clear to me.

3.2.4. Croatian *što*-RCs: RP obligatory with relativized genitive

Object *što*-RCs manifest parallel behavior. In a *što*-RC, where the relativized phrase bears genitive, an RP is obligatory, regardless of the matching effect. This is true regardless of whether the matching requirement is satisfied through case identity (20a), or through case syncretism (20b).

☞ □

20. a. Sjećam_{gen} se profesora [što si *(ga) se bojao_{gen} ___ na fakultetu.]
remember.1SG_{gen} REFL professor.GEN [that Aux.2SG him.GEN REFL feared_{gen} ___ on college]
'I remember the professor that you used to fear in college.'
- b. Vidio_{acc} sam profesora [što *(ga) se bojiš_{gen} ___ .]
seen_{acc} Aux.1SG professor.ACC/(GEN) [that him.GEN REFL fear_{gen} ___ .]
'I saw the professor that you fear.'

⁵ In (19), the anaphor *svoj* cannot be bound either by the embedded subject *Jan*, which indicates the lack of reconstruction, or by the matrix subject *Vid*, which indicates that this subject is not local enough to the WH_{FR}.

One way to view this situation is to say that the matching requirement is not satisfied whenever either HEAD_{RC} or the RP bear genitive case (i.e. that genitive is somehow invisible for case matching). However, this is not true: genitive fails to satisfy the matching requirement only if it is the relativized phrase. If the HEAD_{RC} is genitive, and the embedded predicate requires accusative (syncretic with genitive), the RP is optional.



21. Bojim_{gen} se čovjeka [što si (ga) vidio_{acc} ___ na zabavi]
fear_{gen} REFL man.GEN/ACC [that Aux.3sg him.ACC/GEN seen_{acc} ___ on party]
'I fear the man that you saw at the party.'

This situation suggests that *što*-RCs in which the relativized phrase is a genitive object cannot be derived by movement. Given that the same constraint on movement of genitive phrases is manifest in FRs as well, this data provides additional support for the claim that Croatian indeed has two strategies for deriving *što*-RCs: a movement strategy and a non-movement strategy.

Recall from (1b) above that subject *što*-RCs in Croatian obligatorily require a gap in the position of relativization. However, when the subject of the *što*-RC is genitive (in existential constructions), an RP is obligatory even in a subject *što*-RC, regardless of matching.



22. Pojeo_{acc} sam sladoled [što *(ga) je bilo_{gen} na stolu.]
Eaten_{acc} Aux.1sg ice-cream.ACC [that him.GEN Aux.3sg been_{gen} on table.LOC]
'I ate the ice-cream that there was on the table.'



23. Najeo_{gen} sam se sladoleda [što *(ga) je bilo_{gen} na stolu.]
Eaten_{gen} Aux.1sg REFL ice-cream.GEN [that him.GEN Aux.3sg been_{gen} on table.LOC]
'I have eaten to the fullest the ice-cream that there was on the table.'

4. CONCLUSION

In this talk, I argued for the existence of two strategies in the derivation of Croatian object *što*-RCs: a movement strategy, and a non-movement strategy.

I presented evidence that the movement strategy in these constructions is subject to a matching condition, which requires that the $HEAD_{RC}$ and the RP match in morphological case.

I supported the claim that we are indeed dealing with two different derivational strategies by presenting evidence from:

1. Relativization out of syntactic islands, and
2. Relativization of genitive phrases (parallelism between FRs and subject/object *što*-RCs).

In the former it was shown that even in matching *što*-RCs, the RP is obligatory if it is contained in an island.

The latter established an interesting parallel between reconstruction effects in FRs and the obligatoriness of RPs in object (and subject) *što*-RCs when the relativized element is a genitive phrase. We saw that movement is blocked in both constructions, giving support to the movement *vs.* non-movement distinction in the derivation of Croatian *što*-RCs.

References

- Bejar, Susana, and Massam, Diane. 1999. Multiple case checking. *Syntax* 2:65-79.
- Boeckx, Cedric. 2003. *Islands and Chains: Resumption as stranding*. Philadelphia: John Benjamins.
- Borer, Hagit. 1984. Restrictive relatives in modern Hebrew. *Natural Language and Linguistic Theory* 2:219-260.
- Bošković, Željko. to appear. On Relativization Strategies and Resumptive Pronouns. In *Proceedings of FDSL 7*.
- Browne, Wayles. 1986. *Relative clauses in Serbo-Croatian*. Zagreb.
- Chao, Wynn, and Sells, Peter. 1983. On the interpretation of resumptive pronouns. In *Proceedings of ALNE 13/NELS 13*, 47-61: Amherst: University of Massachusetts, GLSA.
- Chomsky, Noam. 1977. On wh-movement. In *Formal Syntax*, eds. Peter W. Culicover, Thomas Wasow and Adrian Akmajian, 71-132. New York: Academic Press.
- Goodluck, Helen, and Stojanović, Danijela. 1996. The structure and acquisition of relative clauses in Serbo-Croatian. *Language Acquisition* 5:285-315.
- Gračanin-Yuksek, Martina. 2008. Free Relatives in Croatian: An Argument for the Comp Account. *Linguistic Inquiry* 39:275-294.
- Kayne, Richard. 1994. *The Antisymmetry of Syntax*. Cambridge, MA.: MIT Press.
- Kordić, S. 1995. *Relativna Rečenica*. Zagreb: Matica Hrvatska.
- McCloskey, James. 2002. Resumption, Successive Cyclicity, and the Locality of Operations. In *Derivation and explanation in the minimalist program*, eds. Samuel D. Epstein and T. Daniel Seely, 184-226. Malden, MA: Blackwell.
- Merchant, Jason. 2004. Resumptivity and non-movement. In *Studies in Greek Linguistics*, 471-481. Aristotle University of Thessaloniki.
- Mitrovic, Ivana. 2008. Resumptive Pronouns in Serbian Subject and Object Relatives. Paper presented at *The 10th CUNY/SUNY/NYU Mini-Conference*, CUNY Graduate Center.
- Safir, K. 1986. Relative clauses in a theory of binding and levels. *Linguistic Inquiry* 17:663-689.
- Sauerland, Uli. 1998. The meaning of chains. Doctoral dissertation, Massachusetts Institute of Technology.
- Sells, Peter. 1984. Syntax and Semantics of resumptive Pronouns. Doctoral dissertation, University of Massachusetts.
- Shlonsky, Ur. 1992. Resumptive Pronouns as a Last Resort. *Linguistic Inquiry* 23:443-468.
- Vergnaud, Jean-Roger. 1974. French Relative Clauses. Doctoral dissertation, Massachusetts Institute of technology.

5. APPENDIX

5.1. Subject *što*-RCs

The claims made above about the derivation of object *što*-RCs to an extent carry over to subject *što*-RCs. More precisely, it seems that certain Croatian subject *što*-RCs may also be derived by movement or base generation strategy, but these options are only attested if the relativized subject is not nominative.

In subject *što*-RCs with nominative subjects, the RP is always banned. Thus, the *što*-RCs in (1b), repeated below as (24), is only well-formed if the RP is absent.

24. *čovjek* [*što* (*on) je došao]
man.NOM [that he.NOM Aux.3SG come]
'(the) man that came.'

An RP is disallowed not only in the position of the highest subject, but also in the position of an embedded subject.⁶

25. Vidio sam čovjeka [*što* si rekla [da je (*on) došao]]
seen Aux.1sg man.ACC [that Aux.2SG said [that Aux.3SG he.NOM come]]
'I saw the man that you said came.'

This suggests that subject *što*-RCs are always derived by movement, and that this movement is *not* subject to the matching effect, as shown by (25) and (26).

26. Vidio sam čovjeka [*što* je (*on) došao] NOM: *čovjek*
Seen Aux.1sg man.ACC [that Aux.3SG he.NOM come]
'I saw the man that came.'

This claim, however, is too strong. We have already seen in (23) that subject *što*-RCs in which the relativized subject bears genitive cannot be derived by movement. This is compatible with the general inertness of genitive phrases, which we observed in the case of object *što*-RCs, as well as in FRs.

⁶ Shlonsky (1992) explains the fact that in Hebrew and Palestinian Arabic there must be a gap in the position of the relativized highest subject in the relative clause by appealing to locality. For him, the movement from the highest [Spec TP] to [Spec CP] is never blocked by relativized minimality, and thus the last resort RP is never present in this position. All other cases, in which an RP is present, are a violation of the Specified Subject Condition. Croatian differs from languages discussed by Shlonsky, in that it disallows RPs in all subject positions (see also Boskovic (to appear)).

However, besides genitive subjects, Croatian has quirky dative and quirky accusative subjects. When the relativized subject in a subject *što*-RC bears dative or accusative, speakers tend to require an RP in the site of relativization, which indicates a non-movement strategy. However, under certain circumstances, even these relative clauses may be derived by movement. My own judgments are that these circumstances amount to an even stricter matching requirement (**STRICT MATCHING**) than the one found in object *što*-RCs.

Namely, the RP in the position of the relativized quirky subject in a subject *što*-RC can be omitted if two conditions hold:

- i. The HEAD_{RC} matches the RP in case (case identity, case syncretism), and
- ii. The HEAD_{RC} that the subject *što*-RC modifies is also a subject.

Thus, we observe the following contrasts.

HEAD_{RC}: dative subject; RP: dative subject

RP optional

27. Čovjeku [što [?](mu) je hladno_{dat}] je neugodno_{dat}.
man.DAT [that him.DAT Aux.3sg cold_{dat}] Aux.3sg embarrassed_{dat}
'The man that is cold is embarrassed.'

HEAD_{RC}: dative IO; RP: dative subject

RP obligatory

28. Čovjeku što *(mu) je hladno_{dat} dajem_{dat} novac.
man.DAT that him.DAT Aux.3sg cold_{dat} (I) give_{dat} money
'I give money to the man who is cold.'

HEAD_{RC}: nominative subject; RP: accusative subject (case syncretism)

RP optional

29. Dijete [što [?](ga) je sram_{acc} vlastitih postupaka] je_{nom} dobro odgojeno.
child.NOM/ACC [that him.ACC Aux.3sg ashamed_{acc} own.GEN actions.GEN] is_{nom} well brought-up
'A child that is ashamed of his own actions has been brought up well.'

HEAD_{RC}: accusative object; RP: accusative subject

RP obligatory

30. Vidio_{acc} sam čovjeka [što *(ga) je sram_{acc} vlastitih postupaka.]
seen_{acc} Aux.1sg man.ACC [that him.ACC Aux.3sg ashamed_{acc} own.GEN actions.GEN]
'I have seen a man who is ashamed of his own actions.'

The behavior of RPs in Croatian subject *što*-RCs may be summarized as follows.

Table 1

	CASE	REALIZED AS	DERIVATION STRATEGY
SUBJECT IN A ŠTO-RC	nominative	GAP	movement
	accusative	RP/GAP	base generation/movement (subject to strict matching)
	dative	RP/GAP	base generation/movement (subject to strict matching)
	genitive	RP	base generation

If the correlation between the realization of the relativized subject and the derivational strategy of a RC in Table 1 is on the right track, it makes predictions about the interaction of subject *što*-RCs and islands. In particular, we should find island effects with:

- nominative subjects (always)
- accusative and dative subjects (in the absence of an RP)

This prediction seems to be borne out, as the following data show.

Nominative subject relativized out of an island

31. *Ovo je čovjek [što je Sanja plakala [jer je (on) bezobrazan.]]
 this is man.NOM [that Aux.3SG Sanja.NOM cried [because Aux.3sg he.NOM rude]]
 ??/*‘This is the man that Sanja cried because he is rude.’

Dative subject relativized out of an island

32. Čovjeku [što si plakala [jer *(mu) je hladno]] sad je neugodno.
 man.DAT [that Aux.2sg cried [because him.DAT is cold]] now is embarrassed
 ‘The man that you cried because he is cold is now embarrassed.’

Accusative subject relativized out of an island

33. Dijete [što si plakala [jer *(ga) je sram]] se sakrilo.
 Child [that Aux.2sg cried [because him.ACC is ashamed]] REFL hidden
 ‘The man that you cried because he is ashamed has hidden himself.’

Genitive subject relativized out of an island

34. Ovo su kolači [što je Iva plakala [jer *(ih) nije bilo na stolu.]]
 this Aux.3sg cookies.NOM [that Aux.3sg Iva cried [because them.GEN NEG-Aux.3sg been on table]]
 ‘These are the cookies that Iva cried because they were not on the table.’

These data suggest that it would be wrong to claim that movement is always obligatory in the derivation of subject *što*-RCs. Rather, it seems to be obligatory for all and only nominative subjects.

5.2. Where does the matching requirement come from?

- Why is movement out of object (and some subject) *što*-RCs subject to a matching requirement?
- Why is this requirement stricter for the extraction of the subject, than for the extraction of an object?
- Why does this requirement not hold for the extraction of *nominative* subjects?

One way to capture the correlation between case matching and the possibility of extraction is to view the movement analysis of *što*-RCs in Croatian as a raising analysis (Kayne, 1994; Sauerland, 1998; Vergnaud, 1974, among others).

On this analysis, the $HEAD_{RC}$ raises from within the relative clause to a position which is either external to the relative clause (Vergnaud, 1974 and works following him), or at the left periphery of that clause (Kayne, 1994).

35. a. $[NP HEAD_{RCi} [CP [C' \textit{što} [TP \dots t_i \dots]]]]$
b. $[CP [NP HEAD_{RCi}] [C' \textit{što} [TP \dots t_i \dots]]]$

The head that moves from within the relative clause, where it is case-marked by an embedded predicate, is once again case marked in its derived position (perhaps along the lines of Bejar and Massam's (1999) proposal). This is only possible if the morphology on the verb does not conflict either of the formal case featured that the $HEAD_{RC}$ is assigned.

However, raising analysis along the lines of (35) seems improbable for Croatian RCs due to the absence of reconstruction (in contrast to FRs).

36. $Jan_i \textit{voli}_{acc} [svakog \textit{svog} \textit{psa}]_{i/*j} \textit{što} (ga) \textit{je} Iva_j \textit{dovela}_{acc} __ \textit{na} \textit{izložbu}$.
 $Jan_i \textit{loves}_{acc} [every.ACC \textit{self's.ACC} \textit{dog.ACC}]_{i/*j} \textit{that} \textit{him.ACC} \textit{Aux.3sg} Iva_j \textit{brought}_{acc} \textit{on} \textit{exhibition}$
'Jan loves every one of his dogs that Iva brought to the exhibition.'
* 'Jan loves every one of her dogs that Iva brought to the exhibition.'

37. $Jan_i \textit{voli}_{acc} [kojeg \textit{god} \textit{svog} \textit{psa}]_{j/*i} \textit{je} Iva_j \textit{dovela}_{acc} __ \textit{na} \textit{izložbu}$.
 $Jan_i \textit{loves}_{acc} [whichever.ACC \textit{self's.ACC} \textit{dog.ACC}]_{i/*j} \textit{Aux.3sg} Iva_j \textit{brought}_{acc} \textit{on} \textit{exhibition}$
'Jan loves whichever one of her dogs Iva brought to the exhibition.'
* 'Jan loves whichever one of his dogs Iva brought to the exhibition.'